

To-Morrow

We will formally open our elegant new store to the public. We want you ALL to come; want to get better acquainted with you; want you to come in and make suggestions whenever you see any chance for betterment. It has always been our endeavor to furnish a hundred cents' worth for a dollar, and to make our business a mutual one between buyer and seller. Our old quarters got so small that it is our business got so big that we had to move. So we've caused our present large building to be erected, and put therein a stock which, together with the building, will make a gross investment of over \$250,000 (a quarter of a million).

But Richmond is progressing—so in Virginia, and so in all the South—and now, with our new building and new stock, and constantly improving methods of doing business, we think we're in the hand-wagon with the South's greatest Furniture House.

The South's Greatest Furniture House

Grand Opening!

Monday, April 22, 1907

Chas. G. URGENTS' Son

Adams and Broad Sts.

\$1,000 Given Away. No Goods Sold.

Stein's and Iardella's Bands (10 pieces) will discourse music all day.
9 A. M. to 10:30 P. M.

Everything For the Home!

Free and Worth Having!
\$200.00 WORTH!

To make this occasion interesting we've decided to give away a handsome two-inch continuous-post brass bed (including fine springs and mattress), a genuine mahogany bevel French plate mirror, single-door wardrobe, a handsome mahogany bureau and washstand, two chairs, one rocker and a body Brussels druggist—in all amounting to a little over \$200.00. The way of giving is this: Everybody coming in our store will receive a number in the order in which they come. For instance, the first person will be No. 1, the twenty-ninth person will be No. 29, and so on. Then at the proper time we will blindfold some little girl, and she will pick out the lucky number.

ANY MAN, WOMAN OR CHILD CAN HAVE A CHANCE TO GET THIS HANDSOME SUIT, except employees or any one selling us goods.

Read about our souvenirs for ladies only.

Everybody Welcome!

Come and Enjoy Yourselves

For Ladies Only!

Our best friends and customers are the ladies, and in acknowledgment of that fact we will present every lady with a handsomely engraved oxidized mirror, with a handle—something that can be carried in a handbag. We always look after customers' conveniences.

By the way, we would say that in building our new home we have made a large, light retiring-room for ladies. This will be of especial convenience to our out-of-town lady customers, inasmuch as they will be able to check their baggage, write letters, etc., and probably save hotel expenses.

We Feel Sure

Of every one's being pleasantly surprised on visiting our store. It's loaded up with the best household merchandise of Grand Rapids, Chicago, New York and other home centers, as well as lots of foreign goods of great merit. We've got everything for the home, from a 59c rocker to a \$1,000 bridal suit; from a stove to a hair mattress; and what's more, we've got salesmen who know their business, and if necessary can tell you what to buy, and who will always sell you the right thing, and not stick you with something because there's more profit in it.

PROTECTION FROM
LIGHTNING EASY

New System That Has Been
Adopted by United States Navy
Department.

MORE THAN FRANKLIN KNEW

Toy Chimneys and a Miniature
Thunder-Storm Used in a
Scientific Laboratory.

WASHINGTON, April 20.—In one of the laboratories of the George Washington University in this city stand the models from which a new system of protection from lightning has just been adapted for all the buildings and chimneys in the various yards of the United States Navy. Perhaps no better place for playing with lightning, after the sober, serious, scientific fashion, exists anywhere. Typical among the models is a miniature brick chimney about two feet high and four inches in diameter, bearing four little metal rods whose most noticeable peculiarity is that they are not insulated from the chimney by any of the ordinary glass devices, but are so constructed as to allow whatever electricity is induced on the broad surface of the chimney to drain off instead of remaining there to disintegrate the brick-work should a disruptive discharge occur.

Heading Off the Bolt.

A copper "spider" spread across the top of the chimney—a radiating network of wires, connected with the vertical rods—is another special feature. Down the interior of this toy shaft, and the case applies to the big, real stacks of our industrial centers, no chance is offered the bolt from overhead to pursue its way, dealing death and destruction in the engine and boiler-rooms of the base.

That's a vital consideration, too. When a chimney is being poured heat and a column of smoke and other products of combustion, including not a little water vapor, which always accompanies combustion of fuel, there is every likelihood that during some thunder-storm a swift discharge from above may send an alternating current of incredibly swift vibration down the long bore of the shaft. Many a valuable stack, supposed to be protected from the electrical hazard by a system of exterior rods, has been badly damaged through the failure of its builders to appreciate that a massive conductor reaches much higher, and is often a better conductor than the rods, and may therefore serve as the chief channel along which the opposing electricities of sky and earth rush to meet each other. On the model in the George Washington University, if the feet of the spider are firmly attached to the ends of the vertical conductors, the descending discharge, when it reaches the copper network, will be sent harmlessly to earth outside the stack.

Protecting this and other schemes of protection, Dr. N. Monro Hopkins, assistant professor of chemistry in the university and electrical engineer of the United States Navy, is able at any

time to produce a miniature thunder-storm, one offering just such conditions as those in the midst of which the tall stacks of Uncle Sam's navy-yards in many cities need to be protected from the assaults of Jupiter Pluvius. No downfall of rain or hail, to be sure, accompanies the electrical display in the bare little laboratory, where with meagre and generally home-made apparatus scores of experiments important to human progress have been conducted; but the play of lightning is quite as real, and, to the visitor, almost as awe-inspiring, as in nature. By means of a tandem of "step-up" transformers, the investigator sends crackling across the air from his electrodes to his lightning rods a current which, in the language of the electrician, is said to be under a pressure of 1,500,000 volts, or as the ordinary man sees it, sharp enough to make him blink and wonder if he is going to escape electrocution. Like the lightning in the clouds, whose voltage is so great that it can hardly be measured, this is an alternating current with which Dr. Hopkins reproduces the effect of the terrifying flashes of summer thunder-storms. How swift the alternations are is featured in the statement that they reach as high as 200,000 per second. They can be measured, too, by use of reflection devices familiar to physicists and electricians. Indeed, Dr. Hopkins, working in this very laboratory, some time ago achieved the feat of measuring a second of time down to the one-millionth part.

With the electric discharges zigzagging across two or three feet of space, taking now one copper point and now another, while a dull glow about the extremities of the other rods which the lightning has not taken indicates the surface of the shaft is draining properly and that, therefore, the brick-work is safe from disintegration, the experimenter has solved at least a few of the problems of the lightning conductor to his satisfaction, so that they may be applied practically to the protection of the government's valuable property. Their general application will probably follow closely, for governmental applied science in these days is thoroughly practical. This series of experiments of Dr. Hopkins is only one of a great number that have been carried on in the laboratories of George Washington University and that, because of the close connection that is possible between the university and the governmental departments, can be brought very directly to the solution of scientific problems of administration. First-hand investigation has become the rule at Washington.

The Basket Shop,

400 North 7th Street

Phone 2748.

You can buy any
kind of Basket,
Rattan Furniture,
Baby Carriages re-
paired, cleaned and
varnished. Rubber
tires put on.

Old Dominion Willow
and Rattan Works.

Sash, Blinds, Doors,
Lumber, Joists, Mouldings,
Large Stock. Low Prices.
WOODWARD & SON, Richmond, Va.

ington. Hence in the matter of protection from electrical discharges, no lightning-rod agents need apply at the Navy Department. The problem has been settled in accordance with latest methods and understanding of science.

It merited settlement. Statistics of death and accident from lightning show that it is important to bring the lightning rod in an improved form back into favor. In a recent year there were 367 deaths and 491 injuries from lightning in the United States alone, and property of an estimated value of \$1,500,000 was destroyed by it. The reason why lightning-rods have been so generally disused is because they have so often been unintelligently constructed. Franklin, discoverer of many scientific truths, had, so the experts are agreed, the right idea as to safeguarding property and persons from lightning. His notion was not simply to take care of discharges that actually strike, but to prevent discharges by providing for the quiet passage heavenward of electricity induced on the earth by the accumulated electricity of the clouds. That is a main point in Dr. Hopkins' scheme of doing away with lightning-rods. He has not generally been understood what trouble is brought about through the collection of electricity on the outer surface of chimneys.

As showing the misunderstandings of Franklin's principle that have been common, there was in operation in Europe and in this country for many years an alleged protecting device known as the repeller.

This was nothing short of a lightning-rod with its most valuable protective feature, its pointed termination, eliminated. At the top of the rod was affixed a piece of glass like a thick soda-water bottle, inverted. The idea was that this glass would generally have the effect of repelling the discharge of electricity from the clouds, but that if the bolt must strike the chimney or church spire in question it would then break the glass and run down the lightning-rod to bury itself in the earth. The real effect, however, was simply to prevent all possibility of silent discharge of electricity and to render the building much more liable to be damaged.

This city has seen not a little experimenting before now with the question of protection from lightning. In the early days of the Washington Monument, which, rising to a height of 555 feet, with its tapering form and its structure, is singularly exposed to the severe thunder-storms that frequently break across the Potomac Valley, several disastrous strokes did damage to the structure. The simple system of conductors then in use proved to be ineffectual. Of late years, however, the monument has been safeguarded by four copper rods attached to an aluminum cap which fits over the apex of the shaft. This cap is connected with the uprights supporting the elevator machinery, the various parts of which abound in devices for harmlessly taking off the electricity induced on the shaft, that comes wandering down the shaft. Since this system was adopted the monument has been injured in any way by lightning.

Prominent officials, like President Roosevelt and Secretary of the Treasury, have been given their enthusiastic support to the movement for the endowment of the George Washington University as a great national institution, have a warrant in which work as this which Dr. N. Monro Hopkins has accomplished, for the ultimate benefit of the national government, for it is regarded as typical of the advantages that a large university at the capital with facilities for advanced research will bring to the whole nation. The training of this investigator, who has conspicuous position in the Navy Department was secured almost entirely at the George Washington University, largely under the direction of Professor C. E. Munroe, inventor of smokeless powder and distinguished for a large number of other important scientific achievements. Dr. Hopkins' work in electro-chemistry has received

high praise from scientific publications abroad, including the British periodical "Nature," which comments somewhat enviously upon the magnificent laboratory which the George Washington University must have to enable its investigators to carry on researches of so notable a character. Yet as a matter of fact, the equipment up to this time has always been meagre, but the laboratories have been in the hands of men who are able to make the special apparatus required for each piece of work as it comes up for solution.

EXPERIMENTS IN
CULTURE OF CORN

(Continued from First Page.)

\$5.62, with the range where cowpeas and barley were plowed under, \$3.87 on the cowpea range, and \$1.87 on the wheat range. While these differences seem rather small, they were easily discernible throughout the entire growing period, indicating that slight advantages in the beginning have a measurable effect on the yield obtained. The poor germination after cowpeas and barley was due to the fact that the barley was turned under and a dry spell followed, which caused the corn on that plant to suffer from drought.

11. It was not profitable, as a rule, to apply fertilizers on the ranges where cowpeas and barley or cowpeas alone were turned under, which shows the importance of putting land intended for corn in perfect mechanical condition. When a green manure is used the most profitable fertilizer to apply is acid phosphate at the rate of 150 to 300 pounds, and muriate of potash at the rate of 50 pounds. Thomas slag and floats proved more costly in proportion than acid phosphate.

12. On the wheat range 15 tons of farm-yard manure made an increase of 27.91 bushels over no fertilizer, at a cost of 21 cents; 300 pounds of cotton seed meal made an increase of 21.93 bushels, at a cost of 14 cents; acid phosphate at the rate of 150 and 300 pounds made an increase of 9.16 and 18.33 bushels, respectively, at a cost of 10 cents; Thomas slag, at the same rates, made an increase of 10.54 bushels and 14.99 bushels, at a cost of 13 and 15 cents, respectively; floats at the rate of 300 pounds made an increase of 5.59 bushels, at a cost of 8 cents; muriate of potash made an increase of 15.75 bushels, at a cost of 8 cents; a complete fertilizer, at the rate of 100 pounds of nitrate of soda, 300 pounds of acid phosphate and 50 pounds of muriate of potash, made an increase of 16.30 bushels, at a cost of 33 cents. The single fertilizers, particularly phosphates and potash, were highly profitable, and these results would indicate that they could be used to advantage in practice.

13. The necessity of improving corn is witnessed by the low yields obtained on the average, and by the fact that climate, soil and environment materially and quickly influence the corn crop. Realizing the importance of these statements, an attempt was made to improve a local strain of Leaming corn through crossing with a thoroughbred strain of this variety developed in the West. During the first year it became apparent that the length, thickness, shape and size of the grains of the Western corn were materially changed by growth in this climate, but that the yield and quality of the native strain were im-

proved by cross-pollinating with the Western variety; and that this method of corn improvement can be followed advantageously on many farms.

14. The wide variations observed with the large number of samples experimented with show that the corn-breeder can quickly change the characteristics of the crop, increasing or decreasing the size of the stalk, number of leaves, length and shape of ear, and the per cent. of grain. To select and improve corn successfully one must make an individual study of the desirable and undesirable qualities of the several plants and ears, and know which to select and which to reject, or failure will follow. The importance of choosing the right ears is shown by the fact that the yield from forty samples tested varied from 28.14 to 57.26 in 1905, and from 24.79 to 81.69 in 1906.

15. The effect of cross-pollinating native samples with western strains is nicely brought out in case of Ear No. 23, which made a yield of 47.73 bushels in 1905 and 79.46 in 1906; and Ear No. 35, which made a yield of 54.94 bushels in 1905 and 81.69 bushels in 1906. These facts indicate the advantages of using a native strain for mother ears, as they are adapted to the soil and climatic conditions predominating in a given locality.

16. The effect of cross-pollination is shown by the fact that the lowest yield from Illinois seed in 1905 was 26 bushels, and the highest 53 bushels; in 1906 the lowest yield was 42 bushels and the highest 68 bushels. In 1905 the lowest yield with the Virginia sample was 39 bushels, and the highest yield 57 bushels; in 1906 the lowest yield was 53 bushels and the highest 81 bushels. The yield with the Western sample in 1905 and 1906 was practically the same, while with the Virginia sample there was an increase of 18 bushels in 1905 and 39 bushels in 1906.

17. The Virginia sample of Boone County, White, after cowpeas plowed under, made 84.53 bushels; after 15 tons of farm-yard manure, 73.21 bushels; and after timothy and clover sod, 74.46 bushels. The Illinois sample yielded 58.93 bushels after cowpeas, 76 bushels after manure, and 67.89 after timothy and clover sod. Careful measurements of the plants growing on these two plots throughout the season showed that the Virginia seed germinated more vigorously and the plants grew better than the other strain, which shows the relation of acclimatization to yield.

18. When large and small ears were selected from different samples, the history of which was known, it was observed that the large ears in every instance made a more vigorous germination and a higher yield, amounting in some instances to nearly 11 bushels per acre. This is a point that should be carefully considered by corn-growers.

19. The manner of preserving seed corn should not be overlooked. Corn stored in the crib showed a very poor germination, while that stored in a dry room and on racks in the barn germinated vigorously.

20. Owing to the fact that climate and soil so materially affect the character and quality of the corn plant, it seems advisable to use a scorecard, which emphasizes more strongly the necessity of uniformity in the shape of ears, market condition, quality of grain and filling at tip, as these characteristics, in our experience,

have been associated with maximum yields.

21. The average per cent. of protein in the native ears in 1905 was 10.30; in the Illinois ears 10.68, showing that the native strain of Leaming, compared well with the improved strain. It is noteworthy that many of the best yielding ears did not contain as high a per cent. of protein as the undesirable ones, indicating the necessity of studying the performance of the various ears and not basing selection on a high protein content alone.

These experiments were conducted by Prof. P. O. Vanatter and the writer.

ANDREW M. SOULE,
Dean and Director,
Virginia Experiment Station, 1907.

REAL ESTATE AND
BUILDING NEWS

(Continued from First Page.)

Streets, based on his confidently believed, upon sound and logical reasons, have had a most beneficial reflex influence upon South Third Street property, which, by the way, was, eight or ten years ago, generally known as "Boarding-House Lane."

Such, however, has been the change in sentiment toward that unusually attractive section, that there are at the present time but one or two boarding-houses among the large number of handsome residences that line both sides of the street as far down as beautiful Gamble's Hill Park, which crowns the hill overlooking the Fredericksburg and James River.

There seems to be no end to building operations. Every contractor in the city is "up to his ears in work," and the only question with them is how can they finish up their contracts on the required time, for everybody who has put out a contract is anxious to see it completed.

Highland Park.

There is great activity in the building line in Highland Park.

The handsome residence of Mr. G. W. Bahlke, on First Avenue, when completed will be one of the finest in Highland Park.

Mr. D. S. Clark, a prominent contractor of Norfolk, has purchased two lots on First Avenue and will erect a home on same in the near future and make it his residence.

Mr. J. J. Beavers will during the coming summer build on the two lots recently purchased on Second Avenue just beyond the Methodist Church.

Mr. John MacDowell has moved into the residence of Mrs. M. W. Timberlake, on Delaware Avenue.

The residence of Mr. O. C. Peers, on the corner of Virginia Avenue and Highland Street, is nearing completion.

Mr. A. F. Selden, Jr., is one of the recent purchasers. He secured three lots at the corner of Virginia Avenue and Milton Street, facing on the park.

T. K. Potter purchased two lots during the last week on Virginia Avenue, west of Milton Street. Miss Alice Cordley has purchased two lots on corner of Virginia Avenue and Burns Street, and Mr. W. J. Cordley has become the owner of one adjoining.

Mrs. A. H. Groser has purchased two lots on Virginia Avenue, north of Milton Street, and will have a house erected at once.

Mr. W. L. Cordley has secured two

lots on Virginia Avenue, north of Burns Street, in the last week.

Inestimable benefits have come to this community through the magnificent development of Ginter Park, which stands to-day as a monument to the memory of Major Lewis Ginter, the man who conceived and carried out this work. He laid the foundations well, and now the superstructure is being reared in a worthy manner. On most of its beautiful avenues handsome homes are being erected, and many more will soon be started, as plans for over a dozen others are being drawn by various architects of this city.

At last Richmond has a beautiful suburb, worthy of the name, and yet Ginter Park is still in its infancy. The plans for the handsome school and assembly building are about completed, and it is proposed to have this ready for occupancy by fall.

The lot adjoining the corner of Chamberlayne and Walton Avenues was sold this week to a business man of this city, and prospects for the immediate future are most promising, as the number of inquiries is very large. The inclement weather has retarded business somewhat.

OPENING EXCURSION
Via C. & O. to the
EXPOSITION

TRAINS 2 TRAINS

Friday, April 26th
Round \$1.50 Trip

Two special fast trains, 7 A. M. and 8 A. M., will leave Richmond Friday, April 26th. Returning, leave Exposition Pier 6 P. M. and 7:30 P. M. Shortest, quickest and best route, passing in full view of the fleet.

SLEEPING AND PARLOR CAR RESERVATIONS TO THE NORTH, VIA
R. F. & P. R. R.

In view of the large number who do not claim space reserved by telephone and otherwise, and the increased travel expected on account of the Jamestown Exposition, the following is hereby given, to position and various other facilities, and to avoid confusion in securing Parlor and Sleeping Car space, and make better provision for the traveling public if such cars on trains from Richmond over the Richmond, Fredericksburg and Potomac Railroad, Norfolk, is hereby given that, on and after May 1, 1907, Parlor and Sleeping Car tickets must be purchased when reservations are made.

Diagrams for cars starting from Richmond will be handled as follows:
ON WEEK DAYS.

For trains scheduled to leave Richmond after 9:00 P. M. and before 9:00 A. M.—At the office of the Richmond Transfer Company, 819 East Main Street, until 6:00 P. M., and thereafter in the ticket office at the station from which the train departs.

For other trains—At the office of the Richmond Transfer Company until one hour before scheduled departure of train, and thereafter at depot ticket office.

On Sundays—Diagrams for all Sunday trains will be at the office of the Richmond Transfer Company until 6:00 P. M. Saturday, and thereafter in the ticket office at the station from which the train departs.

W. P. TAYLOR,
Traffic Manager.